Prepared for

State of Washington
Legislative Transportation Committee

January 1992

Final Report

Volume I: Summary of Findings and Recommendations

Programming and Prioritization Study

Prepared by

Cambridge Systematics, Inc.
with
Wilbur Smith Associates

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■ The Programming and Prioritization Study

In 1990, the Washington State Legislature directed that a study be performed regarding programming and prioritization of transportation improvements. The objectives of the Programming and Prioritization Study (PAPS) were to evaluate the current state programming process from both a technical perspective and a policy perspective. The technical evaluation examined the basis of needs estimates and priority rankings to determine if any undesirable biases exist. The policy evaluation addressed the effectiveness of the programming process in reflecting current policy objectives.

■ Assessment of Current Programming Process

The study found that the state of Washington has developed an explicit and well structured highway programming process and the technical methods to support it. The current process is consistent with good programming practice, and compares favorably to those used by many other states. Current statutes place a clear emphasis on preservation and accident reduction as overriding policy goals and the existing process already reflects these objectives. Criteria used to define physical preservation

needs and design standards are reasonable and generally consistent with good practice.

The current state process provides strong assistance to local governments through the DOT Program for Local Aid – "Category Z" (which includes both state and federal funds) and the programs of the Transportation Improvement Board (TIB) and the County Road Administration Board (CRAB). These programs all enjoy very strong local support (based on interviews with selected local officials). While this is not meant to imply that all local transportation needs are being met, Washington has established a strong and positive state/local partnership.

However, a number of changes have been occurring which make it necessary to re-examine the current process:

- The policies and strategies to be addressed by the highway program have become increasingly complex and diverse, with more of an emphasis on management of existing capacity and multimodal solutions.

- State legislation dealing with growth management, demand management and air quality, as well as a new system planning process being implemented by the Transportation Commission and WSDOT all place emphasis on a strengthened regional decision making process for transportation. The programming process will need to reflect this trend as the institutional arrangements for effective regional decision making evolve over the next few years.

- The recently passed Intermodal Surface Transportation Efficiency Act of 1991 provides new funding flexibility which creates an opportunity for states to examine a broader range of tradeoffs for the use of Federal and state resources and better focus programs to address each state's needs and priorities.

Therefore, the programming process was evaluated with respect to its ability to function in an increasingly complex policy and institutional environment. Key findings are:

- The existing process makes it difficult to develop a clear linkage between the full range of policy objectives and programming decisions because the criteria for establishing policy objectives, defining needs, and identifying and evaluating candidate projects are not consistent.

- Criteria used to evaluate projects and set priorities provide an objective basis for comparing projects. However, these factors do not encourage consideration of the full range of available transportation solutions and do not place sufficient emphasis on the benefits or output of specific projects.

- There is no explicit linkage between needs analysis and the specific projects identified for funding. This makes it difficult to measure and communicate program goals and accomplishments.

- The existing process does not explicitly examine the key investment tradeoffs and choices facing the state or put sufficient emphasis on measuring and reporting on program performance.

- An emphasis on preservation and accident reduction is reflected in the funding priority to Category A, in work funded by other categories, and in the needs and priority criteria used. However, the existing program structure makes it difficult to identify the total resources devoted to highway and bridge preservation since facility preservation is included as part of Categories A (Preservation and Safety), B (Interstate), H (Bridges) and M (Maintenance).

- There is no clear and explicit linkage between many of the policy objectives in the State Transportation Policy Plan (e.g., personal mobility, economic development, growth management, environmental protection, etc.) and the existing programming process.

- The requirements and policy objectives reflected in more recent state and Federal legislation concerning growth management, demand management and air quality also are not fully reflected in the current programming process.

In summary, the existing process clearly reflects the policy environment that existed when much of the current approach was developed and implemented. However, a new and emerging set of policy issues are now confronting the state. Changes to the current process are required to deal explicitly with these concerns.

■ Recommendations

Changes to the state's programming process are recommended to:

- Reflect the full range of policy issues defined in the State Transportation Policy Plan.

- Highlight the key tradeoffs and choices facing the state in terms of resource allocation decisions.

- Improve the accountability of the process by strengthening the measurement of program performance and system condition.

Key elements of the proposed process are:

- Broadening statutory guidance on the programming process to encompass the full range of policy objectives which have emerged in recent years.

- Establishing stronger administrative (non-statutory) guidelines to be addressed by the programming process, which can be adjusted biennially.

- Restructuring the program into three categories (Maintenance, Preservation, and Improvement) with clear, unambiguous definitions of the types of projects included in each. The state program providing support to local government (Category Z) and the Urban Arterial Trust Account, Transportation Improvement Account, Rural Arterial Trust Account and County Arterial Preservation Programs would remain as is until changes to the state process and new Federal programs are finalized.

- Strengthening linkages between policy objectives, planning and programming through the use of explicit evaluation criteria and performance measures, and the integration of program needs analysis with the WSDOT system planning process.

- Stronger emphasis on providing an ability to make tradeoffs within and across program categories based on explicit analysis of what will be achieved given alternative levels of investment.

- Improving the accountability of the programming process by defining clear goals and measuring and reporting program accomplishments and performance.

- Improving coordination between state and local programming decisions and processes.

1.0 The Washington Programming and Prioritization Study

1.0 The Washington Programming and Prioritization Study

1.1 Background

In 1990, the Washington State Legislature directed that a study be performed regarding programming and prioritization of transportation investments. This report documents the findings of this Programming and Prioritization Study (PAPS).

Because a study of programming and prioritization decisions for all transportation modes at all levels of governments is a very large and complex task, a first stage of the study was defined with a major focus on state-level highway programming. However, a limited number of case studies of local programming processes were included in Stage One in order to guide development of recommendations which support a coordinated, inter-jurisdictional approach to transportation improvements. Stage Two may include more in-depth consideration of broader multimodal and inter-jurisdictional issues.

The Stage One study was directed by a subcommittee of the Legislative Transportation Committee's Transportation Analysis Group (TAG). The subcommittee had representation from the Legislative Transportation Committee (LTC) staff, the Washington State Department of Transportation (WSDOT), the County Road Administration Board (CRAB), the State Transportation Commission, the Governor's Office, the Office of Financial

Management (OFM), transit, and city and county governments. Representatives of the Transportation Improvement Board (TIB), and the Association of Washington Cities (AWC) also participated in the study. Figure 1.1 lists the individuals who participated in the study.

1.2 Objectives

The objectives of the Stage One PAPS effort were to evaluate the current state highway programming process and recommend changes as necessary. The process was to be evaluated in view of:

- The state's current transportation policy objectives;
- Anticipated changes in Federal funding program structure and requirements;
- New initiatives at both Federal and state levels which impose special transportation planning and programming requirements, including Growth Management and the Clean Air Act; and
- Interjurisdictional coordination issues.

Recommendations were to address both the adequacy of technical methods used in the state programming process as well as the responsiveness of the process to current and emerging policy objectives. Recommendations were not intended to suggest changes in local jurisdiction programming and prioritization methods. However, an important objective of the study was to determine if additional steps might be taken at the state level to improve interjurisdictional coordination on transportation projects.

1.3 Scope and Approach

The formal scope of work for the study included five tasks:

- Task A: Finalize Study Requirements;
- Task B: Evaluate the State Highway Programming and Prioritization Process;
- Task C: Recommend Improvements to the State's Programming and Prioritization Process;

Figure 1.1 Programming and Prioritization Study (PAPS) Participants

Transportation Analysis Group
PAPS Subcommittee Members

Ms. Christine P. Freed
Transportation Program Coordinator
Office of Financial Management, Budget Division

Mr. Ron Hart
Transit Representative
City of Vancouver

Commissioner James T. Henning
Washington State Transportation Commission

Mr. Dennis B. Ingham (Chair)
Assistant Secretary for Program Development
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Ms. Renee Montgelas
Assistant for Transportation
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Mr. John Okamoto
Mr. Gary Zarker
City of Seattle

Ms. Anna Peterson
Administrator
Washington State Transportation Commission

Mr. Irving B. Reed
Manager of Engineering
City of Spokane

Mr. Eugene W. Schlatter
Budget Director
Legislative Transportation Committee

Mr. William Stoner
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Mr. Vern Wagar (Vice Chair)
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County Road Administration Board

Mr. James L. Clemen
Assistant Secretary for Finance and Budget Management Division
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Mr. Jerry M. Fay, P.E.
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Mr. Craig Olson, P.E.
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Ms. Louise Bray Sandison
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Mr. Eric Berger
County Road Administration Board

Mr. John Bodoia
King County Roads

Co-Project Monitors and Staff

Mr. Timothy C. Easton
Easton Advisory Services

Mr. Douglas L. Jonas
Matrix Management Group

Mr. George H. Howard
Matrix Management Group

- Task D: Evaluate Local Jurisdiction Programming and Prioritization Processes; and

- Task E: Develop Final Stage One Report.

These tasks included the following specific activities:

- Describe the stated policy objectives related to highway investments, and the current statutory basis for highway programming;

- Describe how the current programming and prioritization process works at the state level;

- Examine trends in highway revenues and expenditures for the past ten years;

- Describe how programming and prioritization of roadway projects is done in a sample of local jurisdictions;

- Evaluate the state programming process from both technical and policy perspectives;

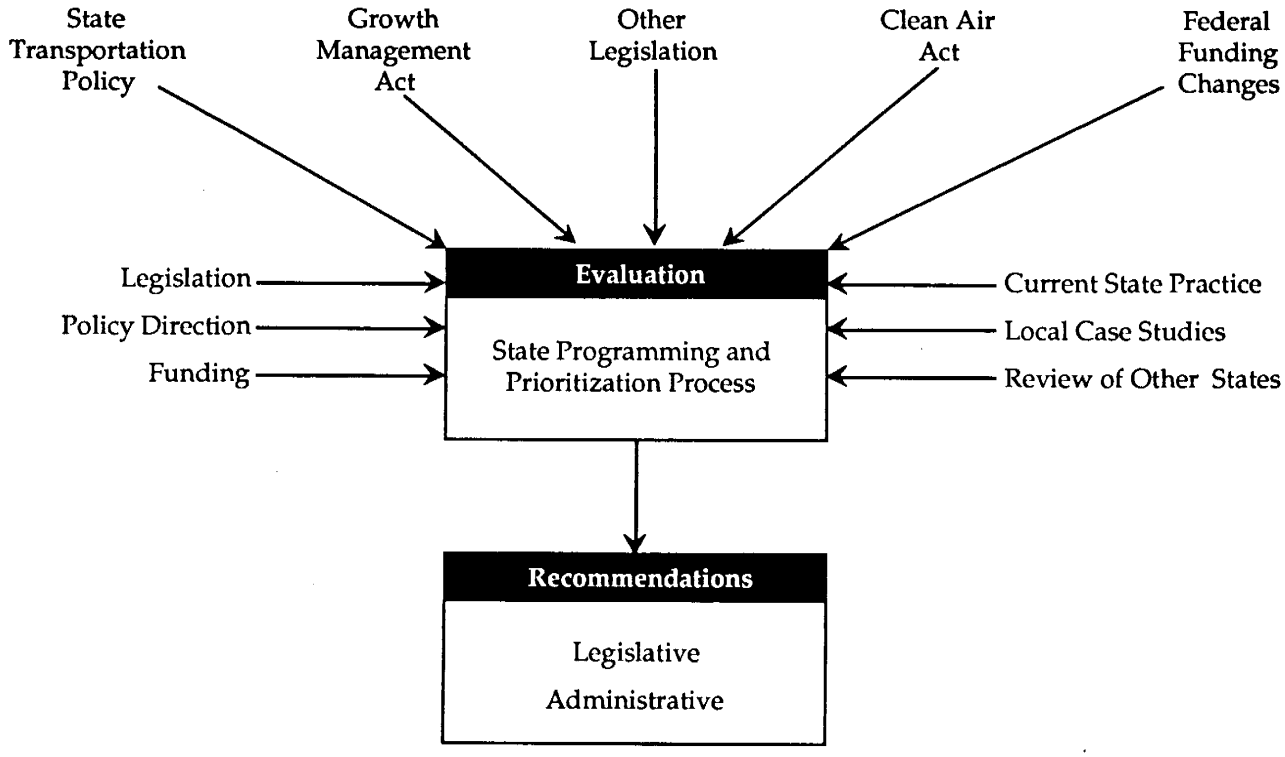
- Investigate the programming practices used by a sample of other states to provide a basis for comparison; and

- Formulate recommendations for changes to the state process and determine the necessary administrative and legislative steps to implement these changes.

The specific programs covered by the study were WSDOT expenditures on state highways and bridges, and funding programs for local jurisdictions including WSDOT Program Category Z (Local Programs), the Urban Arterial Trust Account (UATA) and Transportation Improvement Account (TIA) programs administered by the Transportation Improvement Board (TIB), and the Rural Arterial Program (RAP) and County Arterial Preservation Program (CAPP) administered by the County Road Administration Board (CRAB). Other programs such as those administered by the Public Works Trust Fund (PWTF) and the Community Economic Revitalization Board (CERB) were also briefly reviewed as part of the study.

Figure 1.2 illustrates the scope of the study.

Figure 1.2 Programming and Prioritization Study (PAPS) Scope



1.4 Report Overview

This report provides a summary of the study findings. Chapter 2.0 describes the context for highway programming at both the state and local levels: funding programs, legislative directives, and established policy objectives. Chapter 3.0 provides a brief summary of the evaluation of local programming processes and interjurisdictional coordination issues. Chapter 4.0 presents key findings and recommendations for changing the current state programming process.

Detailed results of the PAPS Tasks B, C and D are provided in companion volumes to this report: Vol. II (Evaluation of State Process), Vol. III (Local Case Studies) and Vol. IV (Recommendations). A glossary of acronyms used in all four volumes of this report is provided at the end of this volume.

2.0 The Context for Highway Programming

2.0 The Context for Highway Programming

In order to understand the context within which highway programming decisions are made, this chapter provides background on:

- Legislation which establishes specific direction for the programming process or which needs to be taken into account within the process at the state or local levels;
- Funding sources and programs for both state and local highway, street and road projects; and
- Transportation policy objectives which have been adopted, against which the results of the programming process are ultimately measured.

2.1 Legislation Affecting State and Local Programming Practices

WSDOT Priority Programming Legislation

Statewide priority programming legislation (RCW 47.05) defines requirements for the state highway programming process. Key provisions of this legislation are:

- A six-year improvement program for state highway projects is to be adopted and revised every two years by the Transportation Commission.

- The capital program is to be divided into four categories: (A) Improvements to sustain the structural, safety and operational integrity of the existing state highway system; (B) Improvements for continued development of the Interstate system; (C) Development of major capacity improvements on the non-Interstate system; and (H) Improvements to sustain the structural and operational integrity of bridges.

- Funds are to be first allocated to meet all identified needs in Category A (preservation), then to meet Category B (Interstate) objectives, then H (bridges), and finally to Category C (capacity).

- For Categories A and H, project prioritization and selection is to be based on structural adequacy, traffic carrying capacity, adequacy of alignment and geometry, accidents and fatalities. For new capacity Category C, prioritization is to be based on continuity of development of the highway network, coordination with the development of other transportation modes, support for stated long-range goals of the local area to be served, potential social, economic and environmental impacts, and public views concerning the proposed improvements. No specific criteria for selection of Interstate Category B projects are named in the legislation; selection of these projects is to be based on established Transportation Commission priorities for completion and preservation of the Interstate system. No formal process for reestablishing and revising these priorities is specified in the legislation other than the requirement that the Commission must establish program objectives for each category for each biennial revision of the six-year highway improvement program.

Programming Requirements for Local Jurisdictions

In 1961, the Washington State Legislature established requirements for counties and cities to prepare and perpetually maintain comprehensive six-year road and street programs. These programs, which are intended to ensure planning and coordination of improvement projects, must be adopted by local legislative bodies and filed with the state.

Since 1961, the legislation has been updated to require designation of rural and urban arterial projects in the six-year program as a condition for state funding from the Rural Arterial Program (RAP) and the Urban Arterial Trust Fund (UATA). General criteria for prioritization of projects for these two funding programs are set forth, and joint planning of multi-jurisdictional projects is required. Requirements have also been added for

submission of county programs to the County Road Administration Board (CRAB), and submission of both county and city programs to the Transportation Improvement Board (TIB).

TIB Administrative code (WAC 479) defines specific criteria and procedures for programming, prioritization and development of projects to be funded from the Urban Arterial Trust Fund and the Transportation Improvement Account.

CRAB has established standards of good practice for county road departments which require priority programming (WAC 136 Chapter 14). These procedures call for a ranking of potential projects on the arterial system based on a locally determined method which considers, at a minimum, traffic volumes, roadway condition, geometrics, and "matters of significant local importance". The standards also state that priority programming is "recommended, but not required" for the local access road system. CRAB also requires that counties use a pavement management system to select pavement projects in order to be eligible for receipt of County Arterial Preservation Program (CAPP) funds.

Cities and counties are required to conduct public hearings prior to adoption of their six-year programs, and must send copies of these programs to affected jurisdictions and agencies. According to TIB administrative code, written acknowledgement is required from each adjacent city, county and WSDOT district office that it has evaluated the proposed six-year program. These evaluations are for the purpose of proposing related arterial improvement projects in order to support an integrated and coordinated arterial and highway system. Joint planning with WSDOT or other jurisdictions is required on both urban and rural arterial projects which cross jurisdictional boundaries or connect with the state highway system.

Growth Management Act

The 1990 Growth Management Act requires that local road, street and transit six-year programs must be consistent with local comprehensive plans, and that local comprehensive plans must be consistent among adjacent jurisdictions. The act also states that the transportation element of local comprehensive plans must develop regionally coordinated level of service standards (this requirement affects the state highway system in addition to local streets and roads). Regional Transportation Planning Organizations (RTPOs) are to coordinate transportation planning on a regional basis – they must certify that local government transportation plans meet state requirements and are consistent with the regional transportation plan. These requirements have yet to be fully implemented, and will have an impact on highway programming at all levels of government – state, county and city.

Transportation Demand Management

New transportation demand management legislation requires each county with a population over 150,000 and each city with a major employer (100 or more employees) to adopt and implement a commute trip reduction plan for all major employers. These plans must be designed to achieve at least a 15 percent reduction in vehicle miles by 1995, 25 percent by 1997, and 35 percent by 1999. This legislation reinforces a policy of promoting urban mobility through transit and ridesharing.

Federal Urban Transportation Planning Requirements

In urbanized areas, development of a regional transportation improvement program is required in order to ensure that federally funded transportation projects are coordinated across jurisdictions.

The Federal and State Clean Air Acts

Amendments to the Federal Clean Air Act were passed in 1990 which are expected to have major impacts on the transportation planning and project development processes in non-attainment areas. Metropolitan areas which are in serious violation of air quality standards are required to implement transportation control measures in order to reduce vehicle miles of travel and congestion. Metropolitan areas in Washington which may be affected by these new regulations are Seattle-Tacoma, Portland-Vancouver, Spokane, and Yakima.

The new state Clean Air Act requires conformity between the state implementation plan for air quality, and the approval for funding of transportation plans, programs and projects. Maintenance and preservation projects are exempted from this conformity requirement.

■ 2.2 Funding Programs

WSDOT Program Funding Sources

The bulk of revenues used for the WSDOT highway program are from state taxes on fuel, state motor vehicle fees, and Federal-Aid funds. Federal funds are expected to account for an estimated 57 percent of the 1991-93 state highway construction budget.

A majority of the state funds are derived from the fuel tax – of the current 23 cent motor vehicle fuel tax, WSDOT receives 12 cents for state highway uses (including support of ferries and debt service).

Current Federal funding programs which are providing support to WSDOT highway program (and their FY 1991 apportionments) are:

- Federal-Aid Interstate-Completion ($64.2 million);
- Federal-Aid Interstate-4R ($55.5 million);
- Bridge Replacement and Rehabilitation ($33.8 million total: $16.9 million for state system; remainder to local jurisdictions through Category Z);
- Federal-Aid Primary (FAP) ($39.5 million);
- Federal-Aid Secondary (FAS) ($10.1 million total: $2.0 million for state system; remainder to local jurisdictions through Category Z);
- Hazard Elimination (HE) ($3.0 million total: $1.2 million for state system; remainder to local jurisdictions through Category Z);
- Rail Highway Crossings ($2.7 million total: $0.5 million for state system; remainder to local jurisdictions through Category Z).

The new Intermodal Surface Transportation Efficiency Act features a major restructuring of current highway and mass transportation programs, with increased flexibility for states in how funds are used. Changes in Federal funding programs are taken into consideration in the recommendations for changing the current state programming process presented in Chapter 4.0, so that Washington can take full advantage of this new flexibility.

Local Program Funding Sources

A variety of Federal, state, and local funding sources are used to support local road and street programs. The Local Programs Division of WSDOT administers the pass-through of Federal funds through program Category Z. Federal funding programs which provide assistance to local governments include:

- The Federal-Aid Urban Systems program, which funds roadway improvements on the Federal-Aid Urban System, and bicycle, pedestrian and transit facilities in urban area activity centers;

- The Federal-Aid Secondary program, which funds construction or reconstruction of rural roads on the Federal-Aid Secondary System;

- The Federal Bridge Replacement and Rehabilitation program, which funds replacement or rehabilitation of bridges on public roads;

- The Federal Hazard Elimination program, which funds safety projects such as intersection improvements, alignment changes and installation of protective devices;

- The Rail-Highway Crossings program, which funds projects to improve safety at rail-highway crossings such as installation of signs and markings, train-activated warning devices and illumination; and

- The Emergency Relief program, which provides funds on an emergency basis to repair or reconstruct roadways and bridges on Federal-Aid systems which have suffered serious damage as a result of natural disasters or catastrophic failures.

Special Federal funding for access roads in support of the U.S. Navy's proposal to establish a homeport in Everett has also been administered under Category Z.

The Washington State Legislature has established four separate funding programs for arterial road and street projects in local jurisdictions. Two are administered by the County Road Administration Board (CRAB); the other two are administered by the Transportation Improvement Board (TIB).

CRAB administers:

- The Rural Arterial Program (RAP) which funds projects on rural collectors with capacity, structural, geometric, or safety deficiencies; and

- The County Arterial Preservation Program (CAPP), which funds pavement preservation projects on both rural and urban arterials within unincorporated areas.

TIB administers:

- The Urban Arterial Trust Account (UATA) which funds city and urban county arterial projects to reduce congestion and improve safety, geometric and structural deficiencies; and

- The Transportation Improvement Account (TIA), which includes a general program for jurisdictions with populations over 5,000, and a small cities program for cities with a population under 5,000. The general program supports projects which address congestion problems, economic development objectives, and which are multimodal and/or multi-jurisdictional in nature. The small cities program addresses safety, geometric, congestion, and structural deficiencies.

Other programs providing support for local jurisdiction road and street projects include the Public Works Trust Fund (PWTF), which provides low-interest loans for the repair, replacement, rehabilitation, reconstruction or improvement of public works infrastructure, and the Community Economic Revitalization Board (CERB) which provides low-interest loans and grants for infrastructure projects which will result in specific private developments or expansions in certain classes of businesses.

Cities and counties also receive a direct gas tax distribution of 6.88 cents (in addition to the gas tax allocations to the CAPP, RAP, TIA and UATA programs). A small portion of this amount is allocated to WSDOT and CRAB for supervision and administration of local programs, and for special studies.

Local jurisdictions may draw upon a variety of general local revenue sources (such as property tax, sales tax, or development fees) for road and street projects. Counties use a property tax-based road levy as a major revenue source. In addition, a number of new local option taxes were approved in the 1990 legislative session.

■ 2.3 Policy Objectives

State transportation policy objectives are defined in the State Transportation Policy Plan, state legislation which addresses transportation and related issues, and in plans and programming documents developed by WSDOT. Major objectives in these documents are summarized below.

System Preservation and Safety: Preservation of existing roads and bridges in order to protect the substantial investment in infrastructure and ensure safe operation of roads and bridges is the highest priority in the State Transportation Policy Plan. Legislation establishing WSDOT's highway programming process (Chapter 47.05, RCW) explicitly states that preservation and safety projects are to be given priority over other types of projects. Funding programs for local jurisdictions such as CAPP, RAP and UATA also emphasize preservation.

Support for Economic Opportunity: The State Transportation Policy Plan recognizes the importance of providing for freight and goods mobility, and supporting economic development needs of distressed areas through transportation system improvements. Expansion of service to ports and airports, as well as maintaining internal freight movements are stated policy objectives. The Community Economic Revitalization Board (CERB) has an infrastructure funding program which specifically addresses economic development objectives.

Personal Mobility: Providing convenient access is a basic transportation objective. The State Transportation Policy Plan views mobility as the movement of people and goods, rather than vehicles, which supports consideration of a broad array of transportation solutions. Management of the demand for transportation (for example, through employer-based ridesharing programs or high occupancy vehicle lanes) and the coordination of transportation and land use decisions are cited as mobility policies in urban areas. Rural mobility policies emphasize coordination of existing services and programs, and the establishment of connections between different modes of transportation. New legislation including the Growth Management Act and initiatives for Transportation Demand Management programs, High Occupancy Vehicle systems, and High Capacity Transportation are all in support of this policy objective.

Environmental Preservation and Energy Conservation: A range of policies promote consideration of air quality, water quality, protection of natural resources, energy conservation, visual quality and noise abatement in transportation decisions. High capacity transportation, transportation system efficiency, and high occupancy vehicle lanes are explicitly supported. The Growth Management Act is cited as a mechanism for ensuring protection of wetlands and incorporation of energy efficiency principles into land use and transportation planning and development. One of the PAPS recommended actions is to require that transportation plans, programs and projects conform to policies to eliminate violations of Federal air quality standards as mandated in the new Clean Air Act.

Transportation Finance: The State Transportation Policy Plan supports the identification and justification of needs in advance of transportation revenue increases, provision of flexible local finance options, the development of new revenue sources dedicated to transportation, the use of pricing to promote efficient system usage, and interjurisdictional and intermodal cooperation to ensure efficient use of available revenues.

Working Together: The need for multi-jurisdictional coordination in planning and programming of transportation projects is recognized in the State Transportation Policy Plan, which calls for the establishment of a regional planning process consistent with the Growth Management Act, coordination of transportation and land use planning, and increased consistency in the format of six-year transportation improvement programs across governmental levels.

3.0 Local Case Studies

3.0 Local Case Studies

This chapter summarizes the results of case studies of programming practices in local jurisdictions. These case studies provided an understanding of important interjurisdictional coordination issues which were taken into account in the evaluation of the state programming process presented in the next chapter.

■ 3.1 Evaluation Approach

Local jurisdictions are responsible for maintenance and improvement of 88 percent of the statewide miles of roadway, and 60 percent of the state's Federal-Aid system mileage. With the recent increase in the gas tax to 23 cents (the city and county share of the gas tax was increased to nearly 11 cents), and the authorization of a variety of new local revenue options, cities and counties will have additional resources to address roadway needs. At the same time, new growth management, demand management, and Federal environmental regulations call for new approaches to planning and programming of road improvements and a greater degree of coordination among state, regional and local levels of government.

Case studies of cities and counties were conducted to provide an understanding of the types of programming and prioritization practices in use at the local level on a sample basis. In addition to documenting current

practices, the case studies helped to formulate recommendations to improve interjurisdictional coordination.

Five cities and six counties were selected as case study sites to represent a range in programming methods, transportation problems, and geographic locations. The counties selected were Adams, Benton, Grays Harbor, King, Spokane, and Yakima. The cities selected were Seattle, Spokane, Vancouver, Redmond, and Shelton (see Figure 3.1). With such a limited sample, it is not possible to make generalizations about the programming methods and problems in all local jurisdictions. However, the case studies do provide insight into the range of variations in local programming methods, and highlight the need for greater interjurisdictional coordination in programming roadway improvements.

■ 3.2 Key Findings

Local Programming Methods

The sampled jurisdictions use a variety of programming and prioritization methods which vary according to local needs and priorities, the size of the road program and the amount of local discretionary funds. There is a strong emphasis in all of the sampled jurisdictions on maintenance and preservation of existing infrastructure, and on safety projects. Other types of needs and priorities vary considerably – for example, some jurisdictions have backlogs of costly road and bridge structural repair needs which are a priority; jurisdictions in growing urbanized areas must deal with congestion problems; farm to market access is a concern in agricultural areas.

The overall size of the road program determines the degree to which program decisions are made through a structured, formalized process, or through less formal engineering judgment. Some of the larger jurisdictions have developed their own quantitative ranking methods for prioritizing improvement projects. The smaller jurisdictions tend to use less formal methods than larger ones.

Program categories in the sampled jurisdictions tend to be defined based on funding sources rather than on broad policy objectives (such as preservation). Consequently, allocation of funds to categories emphasizes matching available outside funds.

All of the sampled jurisdictions feel that current state and Federal funding programs administered through WSDOT Category Z, TIB, and CRAB are addressing important needs. Some jurisdictions reported that if there were

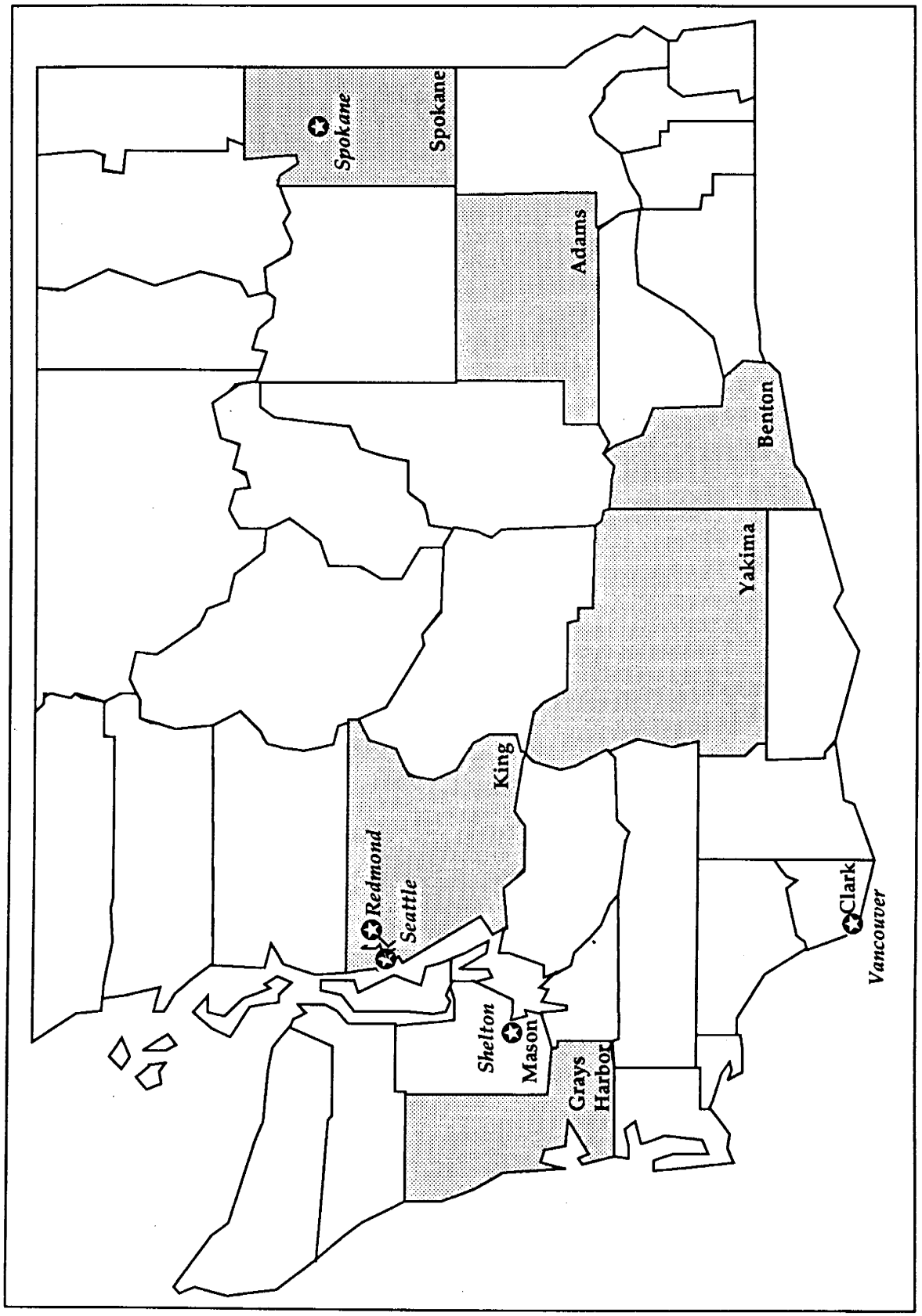


Figure 3.1 Local Case Study Sites

no "strings" on the use of state and Federal funds, they would spend them in very much the same way. Others reported that they would focus on different types of projects which were important locally such as safety projects and downtown revitalization projects, which may not meet current eligibility requirements or do not score high enough with established funding program priority criteria. These comments do not imply that safety is not given sufficient emphasis in current Federal and state funding programs; simply that certain safety projects may be high priority locally but do not successfully compete with other projects for funding given their particular characteristics (accident rates, traffic volumes, etc.).

Some jurisdictions do not have significant amounts of dedicated local funds for transportation, and use most of their gas tax funds to match Federal and state program grants for specific projects. This means that priority formulas associated with funding programs may have more influence on local projects than local policy or priority-setting mechanisms. As additional discretionary revenues are made available through the new local option taxes, local prioritization methods could begin to have more of an impact.

Some of the sampled jurisdictions feel that the competitive basis for allocation of funds for the RAP, TIA, and UATA programs creates uncertainty and limits their ability to develop accurate plans. It also creates the need for "contingency programming" of local funds which may or may not be required for matching.

Interjurisdictional Coordination

The nature and importance of interjurisdictional coordination varies in the sampled jurisdictions. The more urbanized, growing jurisdictions have taken steps to establish formal mechanisms for interjurisdictional planning, and coordinated transportation projects. Smaller, more rural areas rely primarily on informal coordination mechanisms. All jurisdictions share their six-year plans with other affected agencies.

Examples of successful joint planning efforts exist, such as the Eastside Transportation Program (ETP), which involved the cities of Redmond, Bellevue, Bothell, Kirkland, and Issaquah; WSDOT; King County; Snohomish County and Community Transit; the Puget Sound Council of Governments; and local business community representatives. This program developed a consensus on approaches to problems and priorities, and resulted in the definition of joint projects. Joint planning efforts of this nature are effective mechanisms for interjurisdictional coordination, particularly where the problems are complex and involve a multimodal approach.

The Transportation Improvement Account (TIA) program is viewed as an effective "carrot" for development of projects involving multiple jurisdictions and private interests. Several successful project examples were cited, and it was felt that these projects would not have happened at all, or would have taken much more time to be initiated, if TIA did not exist.

Coordination with WSDOT is seen as strong at the project implementation level, but not as strong as it might be in some cases at the planning and programming level. Differences in programming cycles was one factor contributing to coordination difficulties. Several jurisdictions feel that notice of WSDOT's plans further in advance, along with a well-defined process for introducing local projects for consideration in WSDOT's programming pipeline, and regular communication with the districts, would improve coordination. Many jurisdictions do feel that there has been an improvement in coordination with WSDOT in recent years, and that steps being taken to devote more resources to planning, and to develop long-range plans for each state route, are very positive.

While legislative requirements for sharing six-year programs and joint planning have helped to improve coordination, informal coordination is found to be of the greatest value. The extent to which such informal coordination occurs is highly dependent on individuals and varies across WSDOT districts and jurisdictions.

The Growth Management Act will be a major force shaping coordinated planning efforts in the future, and case study jurisdictions which are required (or have elected) to plan under this act acknowledge that there is considerable work to be done to strengthen regional planning and achieve concurrency between transportation and land use decisions.

■ 3.3 Issues to be Addressed

Given the wide variations in size and roadway needs among Washington cities and counties, it is appropriate that there are variations in the programming methods and procedures used by different jurisdictions. No formal recommendations are being made by the PAPS for changes in local jurisdiction programming processes, or in state-administered funding programs for local jurisdictions. However, there are a number of steps which would improve state and local coordination and strengthen ties between policy, planning and programming at all levels of government.

Specific issues of concern which were identified in the case studies are:

- The state's two-year programming cycle sometimes makes it difficult for the state to carry out capacity projects on a partnership basis with local jurisdictions. The long lead time required for project programming can make it difficult for the state to be responsive to emerging needs and opportunities.

- Coordination between WSDOT district offices and local jurisdictions could be improved to provide for more advanced notification of planned projects, and to allow for more substantive involvement of local jurisdictions in the state planning and decision-making process for capacity improvements.

- The process by which local jurisdictions may propose joint state and local projects for consideration in the state's programming process is unclear to many jurisdictions and needs to be more clearly defined and communicated.

- Current program decisions at the state level need to be linked with strategic medium or long-range plans for the transportation system. A stronger emphasis on planning is necessary in order to make programming decisions which take into account the increasingly complex set of transportation, economic, and environmental objectives. Developing transportation strategies which respond to growth management, economic development, and environmental concerns requires multi-jurisdictional planning efforts. Without a strong planning base, it is very difficult for any programming process to adequately address multimodal and multi-jurisdictional projects.

- There are conflicts between the Growth Management Act's requirement that six-year programs should include funded projects only, and those of CRAB and TIB which require inclusion of potential urban and rural arterial projects in six-year programs as a condition for funding approval.

- The Growth Management Act requires establishment of regionally coordinated level-of-service standards. There is no mechanism to formally coordinate setting of these standards for state highways, which are critical links (and congestion points) in urban areas. There is also no mechanism for ensuring that improvements on state highways will be made concurrently with new development.

In the next chapter, recommendations for changing the state's programming process address these issues by providing for better state-local coordination, strengthening linkages between statewide and regional planning and programming, and improving the accountability of the programming process with respect to policy objectives related to Growth Management and other initiatives.

4.0 Key Findings and Recommendations

4.0 Key Findings and Recommendations

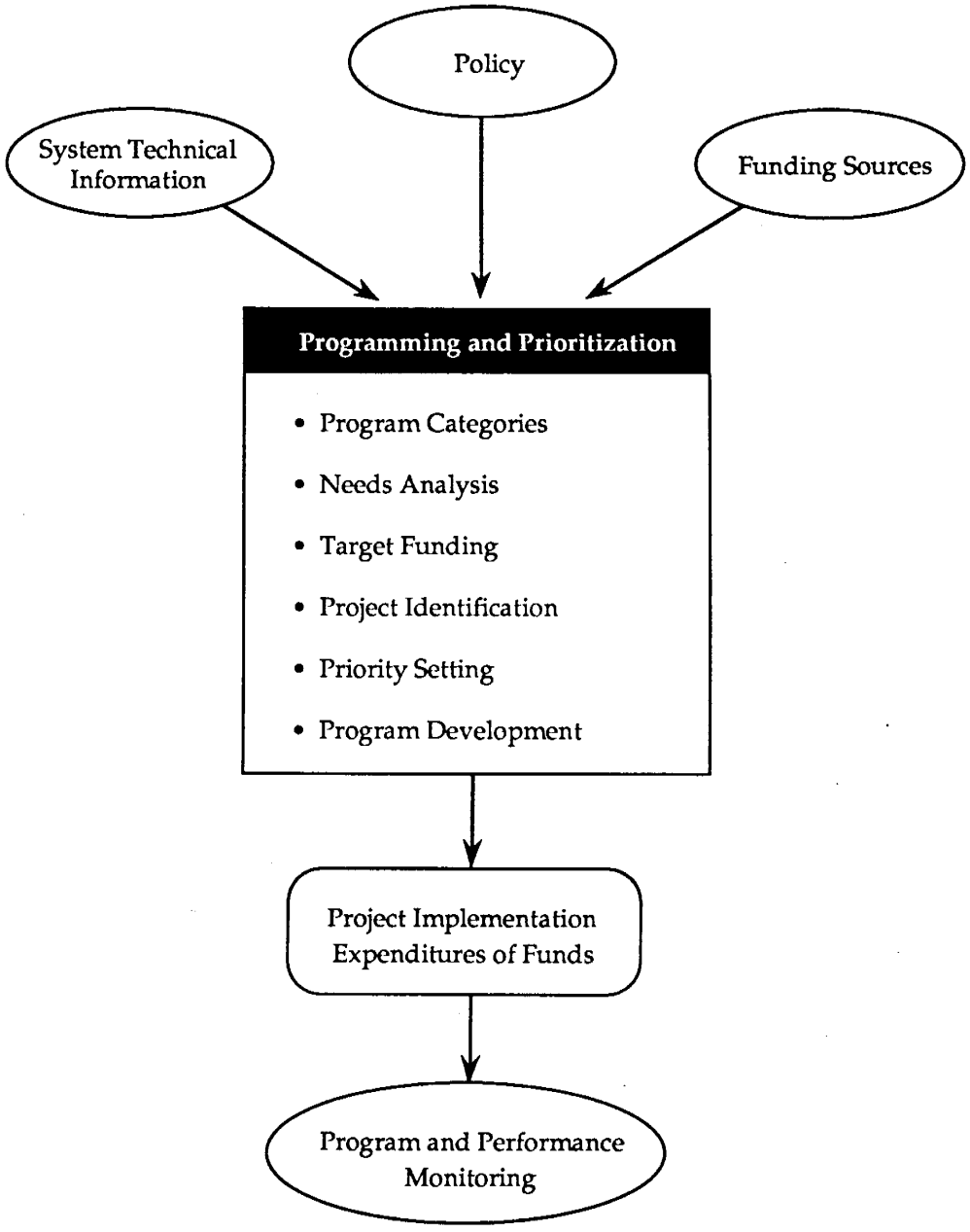
■ 4.1 Overview of the Highway Programming Process

The highway programming process can be viewed as the means by which policy objectives are translated into specific project or program funding decisions. As shown in Figure 4.1, the programming process encompasses a number of activities, each of which has an important influence on the types of funding decisions which result from the process, and the extent to which these decisions reflect established policy:

Policy Direction: Legislative and administrative guidance on how the programming process is to be carried out defines the ground rules for programming.

Program Category Definition: Program categories provide a means to allocate funds, set priorities and track accomplishments in distinct areas. They provide an important intermediate link between individual projects and the different policy objectives for the program. The current state programming process uses several major programming categories that are legislatively defined. In addition, subcategories have been defined to provide additional detail for program planning. Subcategory definitions can also have an important effect, ensuring that particular types of projects are pursued.

Figure 4.1 Overview of Programming and Prioritization



Needs Analysis: The identification of problems and deficiencies, and the estimation of the costs of addressing these needs, is the starting point for the programming process. This step is critically important, as it provides the basis for establishing funding targets for the different program categories. The criteria used to define what constitutes a need, and the assumptions made about the types of improvements which will address identified needs are key aspects of the needs assessment process.

Target Funding: Initial target allocations of funds to different program categories and subcategories, and to different geographic areas sets the scope for the more detailed work of project evaluation and selection. Allocation methods vary by program and category – and may be determined by the share of estimated needs, by formulas comprising road miles and population, or by other factors such as availability of outside funding (for example, a policy to match Federal funds).

Project Identification Methods and Criteria: This step involves identification of candidate projects within each program category. Project identification methods affect the types of projects which are considered to address identified needs and their design characteristics. Criteria such as the functional class of road, traffic volume characteristics, and the type and severity of identified problems or deficiencies may be used to guide which types of projects are appropriate in different circumstances. Established design standards have an important influence in this step.

Evaluation and Ranking Criteria: Once candidate projects are identified, a subset of projects which may be implemented within the established funding level must be selected. To select this set, projects are evaluated according to standard criteria and prioritized on this basis. The evaluation may be formal and quantitative or more qualitative in nature, depending on the type and number of projects under consideration and the form of the available criteria. The types of criteria which are used in the evaluation will affect the types of projects ultimately selected.

Program Evaluation: The process of evaluating what the proposed program as a whole will achieve with respect to policy objectives is a means of explicitly ensuring that the results of the programming process are in fact addressing their intended purpose. This evaluation provides valuable feedback into the process, and provides an opportunity for tradeoffs to be made and reflected in the final capital program.

Program and Performance Monitoring: This involves tracking of program delivery and monitoring system conditions and performance over time.

The remainder of this chapter is organized according to the different elements of the programming process. For each element, the current process is described and evaluated, and recommendations for change are

presented. Recommendations for ensuring effective interjurisdictional coordination throughout the state programming process are also provided.

In general, the PAPS analysis has found that the existing process clearly reflects the policy environment that existed when much of the current approach was developed and implemented. However, a new and emerging set of policy issues are confronting the state now and some adjustments to the current process are required to deal explicitly with these concerns. The three key objectives which these changes address are:

- **Policy Issues.** Establish a strong and clear connection between the programming process and the full range of emerging policy concerns.
- **Trade-Offs.** Strengthen the ability of the process to highlight and evaluate key tradeoffs and choices in the use of funds.
- **Accountability.** Improve the accountability of the programming process by defining clear goals and measuring and reporting program accomplishments and performance.

Figures 4.2 and 4.3 contrast the current and proposed new programming process. Additional details on the existing process are contained in Volume II; supporting information for the recommendations is presented in Volume IV.

■ 4.2 Policy Direction

Current Process

Policy direction to the current state highway programming process is provided primarily by statute, as described in Chapter 2.0. Existing statutes place clear emphasis on system preservation and accident reduction and identify a range of other general priority criteria that must be used to evaluate candidate projects.

The State Transportation Policy Plan prepared by the Transportation Commission and WSDOT, with input from the Legislature, Governor, local government and many other groups defines a broad set of transportation policy objectives as described in Section 2.3.

Policy direction for CRAB and TIB programs is provided both in statute and through more specific administrative guidelines established by these agencies. This guidance establishes clear objectives for the types of projects to be funded under these programs.

Figure 4.2 Existing Programming Process

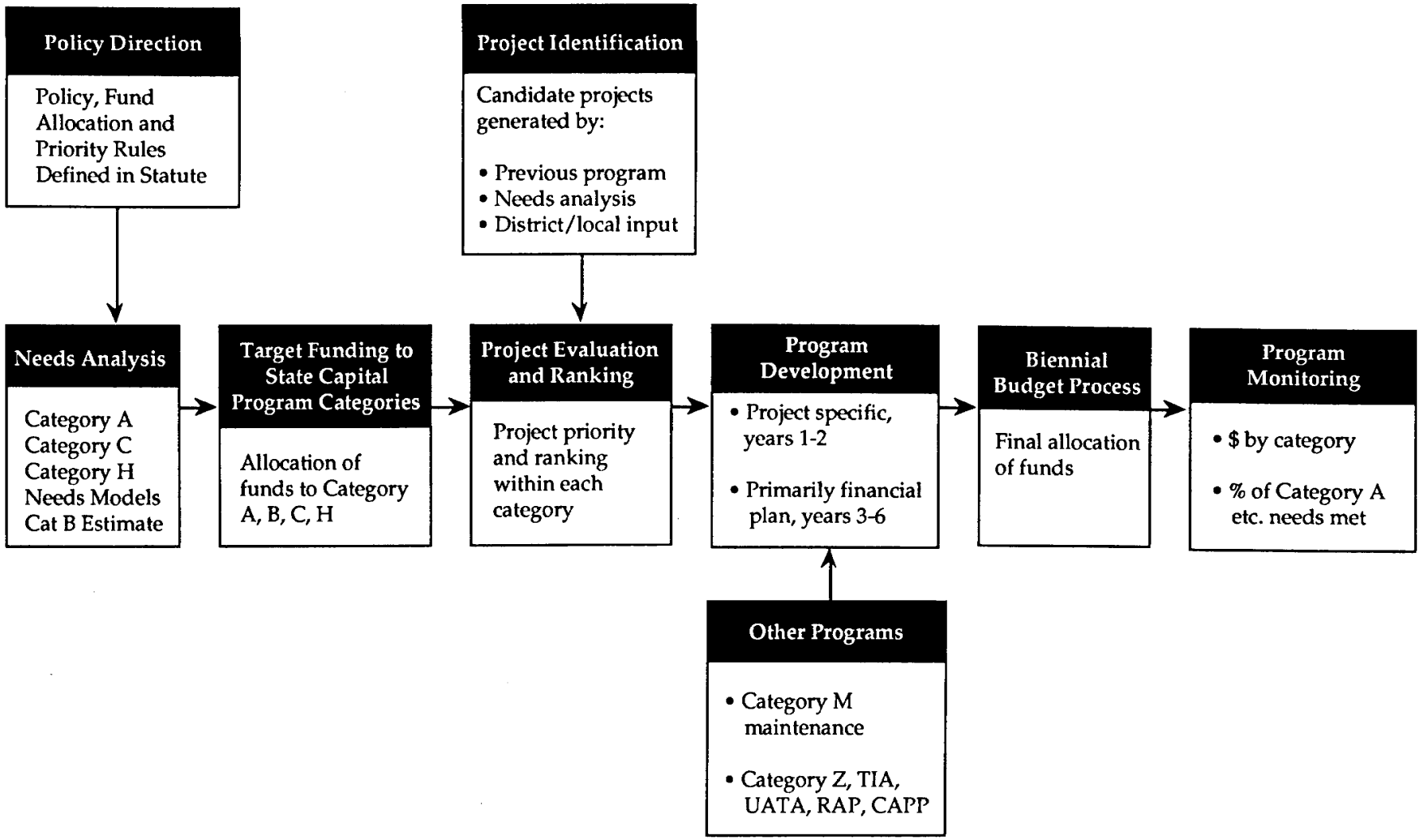
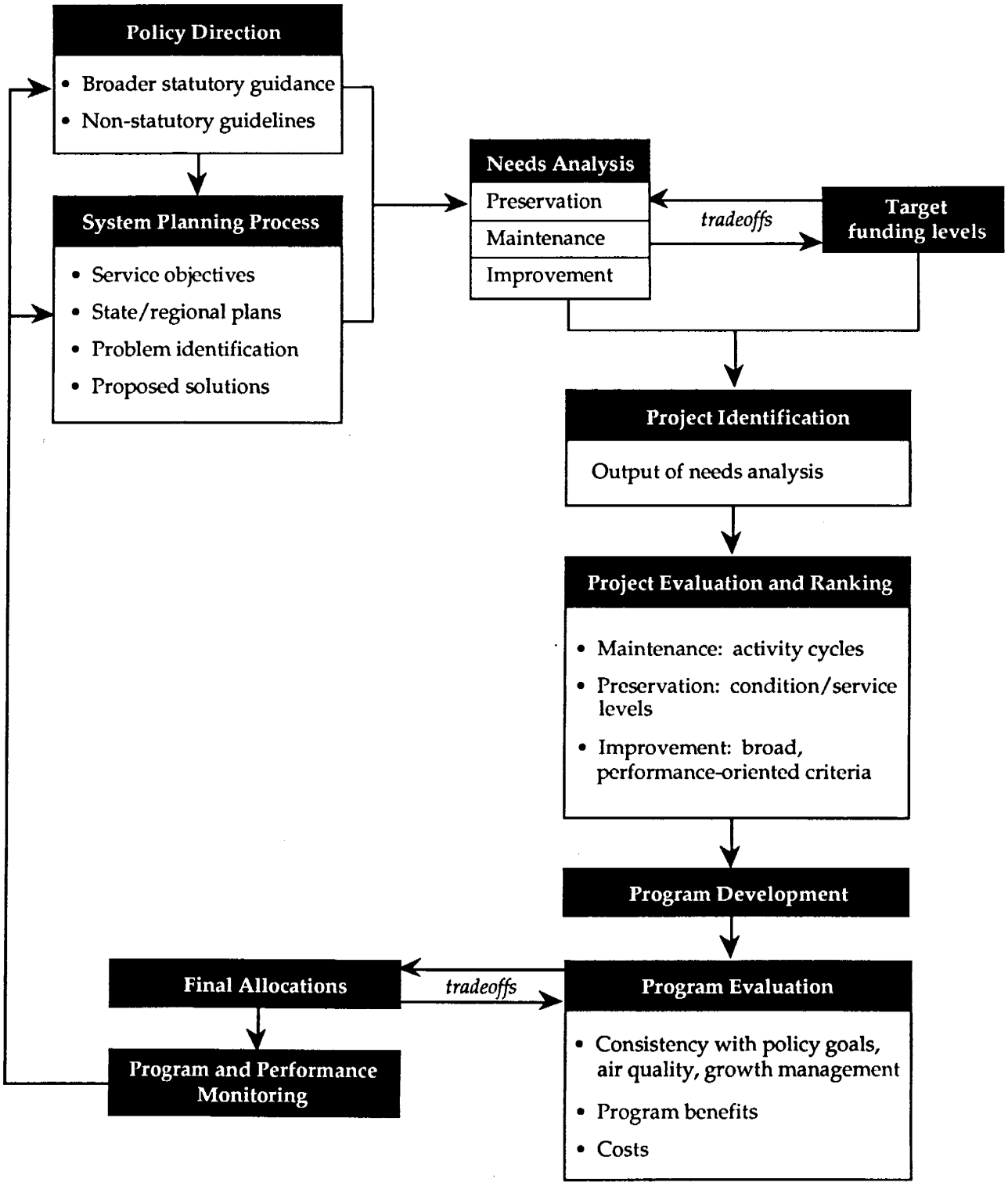


Figure 4.3 Proposed Programming Process



Evaluation of Current Process

There is currently no mechanism that provides guidance to program decisions reflecting the full range of policy concerns identified in the State Transportation Policy Plan or recent state and Federal legislation related to growth management, demand management and air quality. There is also no formal mechanism to provide non-statutory policy direction to the programming process which reflects specific priority or emphasis areas that change over time.

Recommendations

Broaden statutory guidance for programming. It is recommended that the existing statute be modified to encompass all of the policies included in the State Transportation Policy Plan, and in recent relevant legislation, including growth management. This can be done by requiring that the programming process reflects policies in the State Transportation Policy Plan, which is to be revised biennially. Since the relevance of different policies varies by geographic region and with time, legislative guidance for programming should reflect general objectives and guidelines rather than attempting to deal with specific policies or priorities. A new section to the programming statute should be added to define general requirements for good programming practices and for the development of program and performance monitoring reports.

Develop biennial policy guidance for programming. WSDOT and the State Transportation Commission should develop specific policy goals and objectives for each biennium as an explicit step in the biennial budget process. A mechanism should be provided for the Legislature and Governor to review and provide input into the key issues the program will reflect. This mechanism could be a written summary prepared during the legislative session during the first year of the biennium and prior to the preparation of the next biennial program and budget. This summary should review the State Transportation Policy Plan as a whole and then define the specific areas of emphasis for the upcoming biennium.

Establish link to system planning process. A strong connection should be developed between WSDOT's proposed new system planning process and the programming process. Development of a new system planning process is underway and was approved by the Commission in mid-1991. The goal of this process is to explicitly develop measurable service objectives related to each of the policies in the State Transportation Policy Plan and evaluate alternative levels of service objectives both in terms of the costs of achieving them and the likely benefits. The establishment of a strong regional planning process as the mechanism for the state and local government to identify the most critical transportation problems and

appropriate solutions in each region is also part of the system planning process.

Ideally the service objectives developed in system planning would provide direct guidance to the programming process by defining criteria for measuring needs, identifying candidate projects and evaluating projects and programs at least for some program categories. Service objectives would then provide a mechanism to provide consistent and measurable policy guidance through the steps of the programming process. For linkages between the system planning and programming processes to be effective, service objectives and need criteria from system planning should be made available in time for the start of the biennial program development cycle (12-18 months in advance of biennial program approval).

Increase use of tradeoff analysis in the policy-making process. Periodically through the new system planning process, the programming process, or both, the Commission and WSDOT should explicitly evaluate the implications of alternative uses of state transportation funds. Explicitly examining, documenting, and reporting these tradeoffs can help establish the appropriate balance between different policy goals and illustrate the key choices facing the state.

Communicate program impacts. The biennial budget process should be used by the Commission, Legislature and Governor to set the final allocation of funds to program categories. To make this an effective mechanism, WSDOT must provide specific information on likely program impacts and accomplishments as well as a program and system performance report for the previous biennium.

■ 4.3 Program Categories

Current Process

According to legislation, WSDOT's highway construction program is structured into four major categories:

- **Category A – System preservation and safety.** Includes pavement resurfacing and structural repair, safety improvements, traffic signal system and intersection improvements, bridge deck preservation, minor roadway widening, and some truck climbing lanes.

- **Category B – Interstate system.** Includes all preservation and completion projects eligible for Federal-Aid Interstate funds. Certain non-traffic-related functions such as landscaping are also included.

- **Category C – Non-Interstate capacity improvements.** This includes projects such as adding one or more lanes to an existing highway or construction of a new highway link. A "Special Category C" has also been established for a specific set of high capital cost projects.

- **Category H – Bridge replacement and rehabilitation.** This category includes safety and structural improvements needed to preserve non-Interstate bridges, and painting of steel bridges on the Interstate system.

WSDOT Category M includes maintenance of the highway system.

WSDOT Category Z (Local Programs) encompasses WSDOT programs of financial and technical assistance to local jurisdictions in support of a strong state-local partnership in delivery of transportation services. In the 1989-91 biennium, Category Z included three subcategories – Management and Support, Construction Off System, and Everett Homeport. The Management and Support subcategory includes the administration of Federal-Aid funds and special studies. Construction Off System includes funding of road and street improvements off of the state highway system, primarily through Federal-Aid funds distributed to local jurisdictions. The Everett Homeport subcategory included state and federally funded access roads in support of the U.S. Navy's proposal to establish a homeport in Everett.

As noted above in Section 2.2, state programs for local jurisdictions include:

- The **Rural Arterial Program (RAP)** and the **County Arterial Preservation Program (CAPP)** administered by the County Road Administration Board (CRAB); and

- The **Urban Arterial Trust Account (UATA)** and the **Transportation Improvement Account (TIA)** programs administered by the Transportation Improvement Board (TIB).

Evaluation of Current Process

The four **WSDOT construction program categories (A, B, C, and H)** collectively address Washington's most pressing state highway system needs, and generally facilitate setting of priority for preservation and safety over new capacity, making full use of Federal Interstate funding, and ensuring progress on bridge work. However, the current category definition has the following problems:

- There are a number of policy objectives such as economic development, support for high occupancy vehicles, and air quality which are affected

by actions in several or all of the different categories. This makes it difficult to assess program achievements in these areas.

- The increases in Federal funding program flexibility in the new Intermodal Surface Transportation Efficiency Act will diminish the need for a separate Category B.

- The winding down of Interstate completion projects will also diminish the need for Category B.

- The types of projects which are funded under each category do not consistently reflect the commonly used category name. For example, Category A, which is titled Preservation, includes safety projects and minor capacity work as well. Different types of bridge work are included not only in Category H, but also in A, B and C.

- There is no consistent basis for the category definitions. Having one category based on a funding source (B), one based on a facility type (H), and the others based on a type of work (A,C) tends to complicate the setting of consistent priorities and makes comparisons of accomplishments for the different categories difficult.

WSDOT Category Z is primarily concerned with transportation improvements implemented by local jurisdictions off of the state system, and funded with Federal-Aid. It is reasonable to treat these expenditures as a separate program category.

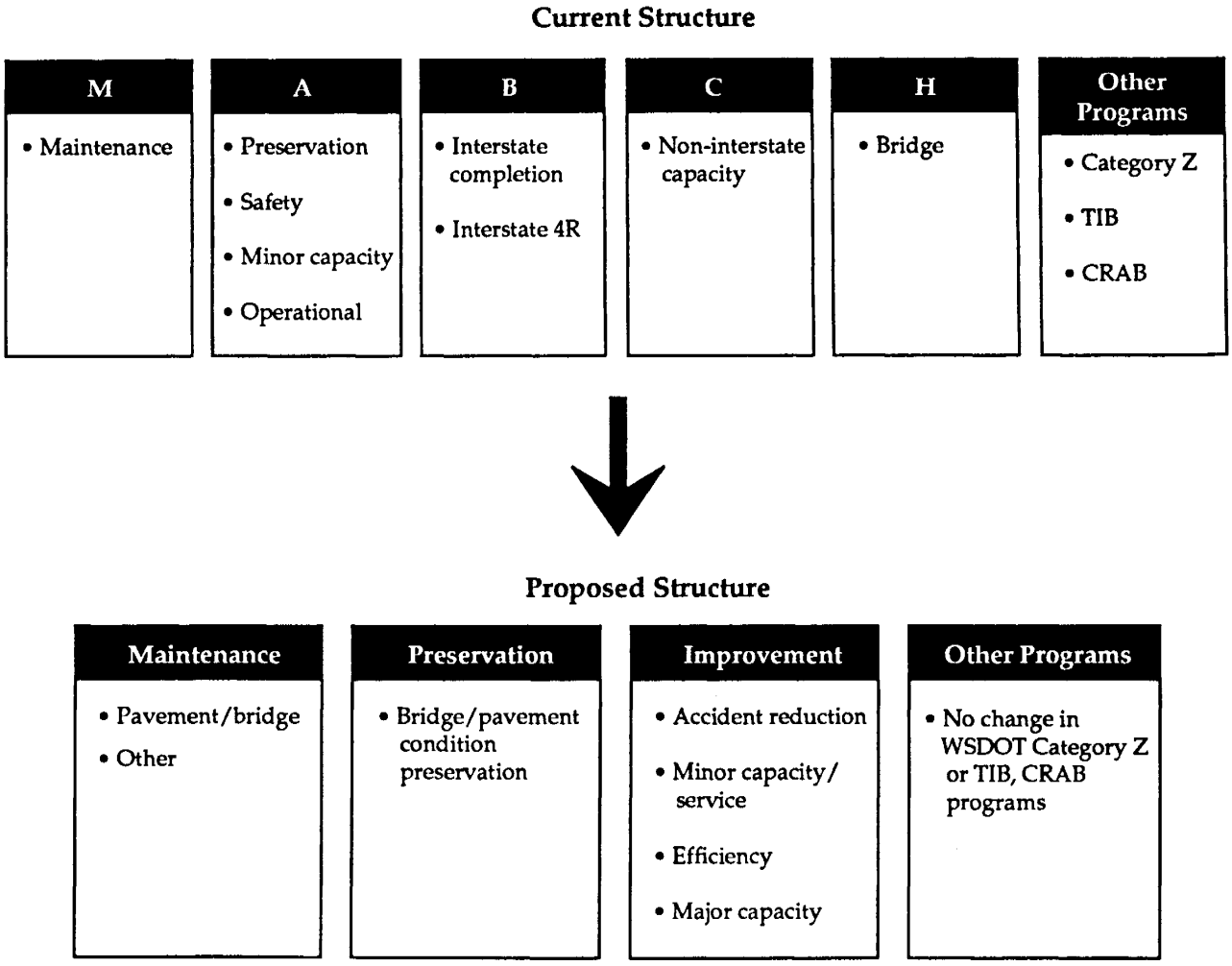
The **UATA, TIA, CAPP and RAP** programs are achieving their intended purposes – providing support for specific types of local needs (pavement preservation, urban arterial preservation and safety, etc.).

Recommendations

Simplify the program structure. Recommended changes to the WSDOT program structure are aimed at establishing a clear, simple and consistent set of program categories that can be explicitly related to key policy objectives, and could ultimately be used to define consistent program categories across all modes and jurisdictions. The categories should provide the ability to take full advantage of the flexibility in the new Intermodal Surface Transportation Efficiency Act, and should minimize earmarking of funds for particular systems or types of improvements in order to allow for cost-benefit tradeoffs as part of the programming process.

As shown in Figure 4.4, it is recommended that three major categories be established for WSDOT state programs: Maintenance, Preservation, and

Figure 4.4 Proposed Changes in WSDOT Program Structure



Improvement. The existing state program, Category Z, that provides funding and technical assistance for a local programs should be continued, with modifications to reflect the new Intermodal Surface Transportation Efficiency Act. Existing Transportation Improvement Board and County Road Administration Board programs (UATA, TIA, CAPP, and RAP) should be maintained as is. These programs are targeted toward key transportation needs and are, for the most part, viewed quite positively by local jurisdictions. However, these programs may need to be reviewed and adjusted depending on the changes implemented at the state and Federal levels.

Distinguish preservation-related activities from other maintenance activities. The new **Maintenance** program would be identical to the existing program Category M. However, a subcategory within the maintenance program should be defined for routine bridge and pavement maintenance activities, and the funds in this subcategory should not be used as a contingency for other maintenance activities except in extreme emergencies.

Establish a new, more narrowly-defined preservation category. The new **Preservation** program would include all projects which preserve the physical condition of existing bridges and roadways. This new program would not include any accident reduction or minor service improvements which are now funded under Category A. It would include current projects funded under Categories B and H which relate to bridge and pavement preservation. Removing accident reduction improvements from the proposed preservation program is not intended to imply that less priority be given to safety. Rather, the intent is to make the objectives of program categories as clear and distinct as possible to assist in defining key tradeoffs and measuring accomplishments.

Include all capacity, service and accident reduction improvements in a single program category. The new **Improvement** program would include all expenditures which improve the service provided by the state's transportation system. This encompasses service and safety improvement projects currently included in Categories A, B, C and H. The full range of transportation solutions should be explicitly included here, from low cost operational improvements to major new capacity investments, including high-occupancy vehicle lanes and transit-related projects. Four subcategories within this program are recommended:

- Minor Capacity/Service (including intersection improvements and minor road widening);
- Accident Reduction (projects whose primary benefit is reduction in accidents or accident severity);
- Efficiency (e.g., ramp metering); and

- Major Capacity (e.g., a new highway or bridge, construction of high-occupancy vehicle lanes or transit-related project).

While the subcategories will be useful to define different types of improvements and relate policy objectives to improvements, it is not recommended that fixed funding guidelines or priorities be established at the subcategory level. Instead, competition for funding among the subcategories should be allowed and may in fact result in different emphases in different bienniums. The biennial program policy guidelines recommended in Section 4.2 can include direction on such tradeoffs.

Also, while project eligibility rules for Federal funding must be identified for each proposed program category, it is not recommended that the state's program structure be dictated by the funding categories contained in the new Intermodal Surface Transportation Efficiency Act.

Consolidate administration, research and other overhead expenditures currently in Category A and other categories. These kinds of expenditures, which are not allocated directly to specific projects, should be funded as a separate line item or program category, or be covered with an overhead multiplier on all projects. In defining this category or multiplier, however, eligibility for Federal reimbursement should be maintained. The purpose of this recommendation is to support a clear, simple, and well-defined program structure.

■ 4.4 Needs Analysis

Current Process

For Categories A (Preservation), C (Non-Interstate Capacity) and H (Bridges), needs are estimated with a set of "needs models". In general, these models: (1) establish criteria for the circumstances under which particular types of projects are warranted, (2) determine the number of each type of project which should be done given these criteria, and (3) estimate the resulting costs.

For example, the Category A model uses estimates of the average life of different types of pavements to determine the number of miles which need to be resurfaced each year in order to maintain current average road surface conditions. The Category C model uses projections of future traffic growth to determine which highway sections will fall below minimum tolerable standards for congestion. Different tolerable standards were used for the Puget Sound urbanized area, other urban areas, and rural areas. The resulting list of congested highway sections provides the basis for

estimating future capacity improvement needs. The Category H model is based on a target of achieving a status quo over time so that bridge conditions do not decline on an overall basis.

No formal needs model is used for Category B (Interstate). This is because the primary use of needs estimates from the models is to determine the allocation of funds to different program categories (and to districts in the case of Category A). However, the Category B allocation is established based on matching available Federal Interstate funds.

There is no formal statewide needs assessment process for Category Z. However, the WSDOT Local Programs Division assists local jurisdictions to identify needs which may be addressed by available Federal and state funding programs. In the case of the Federal bridge funding program the statewide bridge inventory (SWIBS) is used as the basis for identifying local bridge rehabilitation and replacement needs eligible for Federal funding. Improvement needs which may be addressed through the other Federal-Aid programs are identified locally.

The TIB assesses statewide six-year arterial improvement needs by comparing existing arterial conditions to minimum tolerable conditions which have been defined to determine eligibility for UATA funds. Minimum improvement costs for deficient arterials are determined based on minimum design standards for different classes of arterials. A similar needs analysis is not conducted for the TIA program. However, the TIB informally assembles a needs list of projects from local jurisdictions.

Needs analysis is not an integral part of the ongoing statewide programming process for the RAP or CAPP programs administered by CRAB. However, requirements for the development of six-year plans for rural arterial projects, and for the use of pavement management systems for guiding CAPP expenditures, promote the practice of needs analysis at the local level.

Evaluation of Current Process

The purpose of needs analysis is to provide clear estimates of the costs of addressing different types of problems or deficiencies. The results of the needs analysis can then be used to establish budget levels with an understanding of what can be accomplished. They may also be used to establish geographic (e.g., district) funding levels based on the share of estimated needs in different areas.

The current WSDOT methods for establishing needs estimates are based on consistent, measurable criteria, and reasonable cost assumptions. However, they are not as effective as they could be in providing decision makers with a clear idea of what can be accomplished for different budget levels. This is because they:

- Do not consider different options in solving problems (e.g., low cost solutions);
- Do not weigh the costs and benefits of alternatives; and
- Are, from WSDOT's point of view, now incomplete or erroneous.

For example, the Category C model establishes level of service (congestion) standards in different geographic areas. It would be useful to explore the relative costs and benefits of achieving different sets of standards as part of the needs analysis process.

Furthermore, the criteria used to define needs are not necessarily the same as those used to define candidate projects to be included in the program. This has the effect of weakening the connection between budget allocation decisions and the actual program results. For example, in the case of Category A, the needs model establishes a constant target number of lane-miles for pavement resurfacing each biennium which is based on average lives for different types of pavements. While this approach will in fact, over the long run, maintain the current average pavement condition level, the funding allocations which are based on the needs model will not necessarily reflect the relative severity of actual pavement conditions in different districts. WSDOT has a fairly rigorous Pavement Management System (PMS), which stores up-to-date information on pavement condition and is used to identify and prioritize actual pavement projects. The capabilities of the PMS could be more fully utilized as an integral part of the needs assessment and budget allocation process.

The current level of state involvement in needs analysis for TIB and CRAB programs is sufficient. Needs analysis for Category Z funded projects is primarily done at the local level with the exception of the Federal bridge program which appropriately features a greater degree of state involvement.

Recommendations

Revise needs analysis methods to include broader criteria, be consistent with project identification criteria, and involve consideration of trade-offs. The needs categories and analysis methods should be redefined to

reflect the proposed new program structure and to address the disadvantages of the current approach. The new needs analysis methods should use criteria which are consistent with criteria for defining candidate projects. They should also be designed to encourage consideration of a broad range of transportation solutions to address identified deficiencies or problems, and to provide a sound technical basis for identifying opportunities and choices.

Specific recommendations for each new program category are:

- The **Maintenance** needs approach should remain, for the most part, as is (level funding with adjustments for inflation or new requirements). However, whenever possible, performance standards or activity cycles (i.e., appropriate time cycles between activities) should be defined as a means of measuring and communicating what is the intended level of maintenance and what is actually accomplished through the maintenance budget. It is further recommended that needs analysis for pavement and bridge maintenance be integrated with their respective preservation needs analysis as described below.

- The **Preservation** needs approach should involve analysis of the costs of maintaining several different pavement and bridge condition levels. The Department's PMS should be used to analyze the life cycle costs of maintaining different condition levels over time. (Eventually, a bridge management system with similar capabilities should be developed. Meanwhile, portions of the Department's current Category H model could be used.) The Preservation needs analysis should also consider the tradeoffs between routine maintenance and capital projects (preservation) in sustaining pavement and bridge condition at minimum total life cycle cost.

- The **Improvement** needs analysis should ideally combine the results of technical analysis methods with inputs from a broader planning process as currently envisioned by the Transportation Commission and WSDOT. A link to the system planning process is important because improvement projects must respond to a broad array of sometimes conflicting objectives, and must take into account regional differences in what types of solutions are appropriate. For the minor service improvement and safety subcategories, a series of deficiency indicators should be developed to identify candidate improvements, building upon some of the current criteria in the current Category A model. For the capacity and efficiency subcategories, the needs analysis should be based upon the output of a strengthened system planning process, as well as direct input from local jurisdictions, regional planning organizations, and WSDOT district offices. This planning input can be supported by various analytical tools (e.g., an initial screening of problems and deficiencies; new or revised needs models, etc.)

- **Administration** needs should be defined based on historical funding levels or from an analysis of specific activities to be funded each biennium.

No changes are recommended for the needs analysis methods utilized in WSDOT Category Z, or in the TIB and CRAB funding programs.

4.5 Target Funding

Current Process

Funds are targeted to the different WSDOT program categories addressing the state highway system according to the following process:

- A maintenance budget is established based on a continuation of the previous budget with an allowance for inflation and any system changes which would adjust the cost of maintenance and operations.

- The first draw on available construction funds is for Category A, consistent with the priority programming legislation. The Category A funding level is established based on the needs model described above.

- The second draw on construction funds is for Category B (Interstate projects). The policy is to fund Category B at the level which will match Federal Interstate funds made available to the state. This includes both Interstate completion and Interstate 4R funds.

- The third draw from available construction funds is for Category H. The department's bridge programs are funded at a level which ensures that all Federal funds retained by the department are matched, plus some additional bridge projects are undertaken requiring 100 percent state funds. The proposed level of funding for Category H is determined by the Category H needs model.

- Special Category C projects are funded from the proceeds from a 0.75 cents per gallon fuel tax applied to project bonds.

- Category C is allocated the remaining funds after budgets are set for the other categories. However, the Category C needs model is used to obtain a target funding level.

A further geographic allocation of funds is made for Category A, and a portion of Category B. Funds for Category A are allocated to the six WSDOT districts on the basis of needs, with a small amount set aside for

use by headquarters. District needs are estimated according to project type. The resurfacing component of each district's allocation is based on a statewide resurfacing target, and the distribution of lane-miles by volume classification and pavement surface type by district. Within Category B, Interstate 4R capacity funds are allocated to three regions of the state (East, West and Puget Sound) based on a formula which includes congested lane miles, population and vehicle miles traveled.

A majority of Category Z funding is derived from Federal-Aid program appropriations for local jurisdictions. Federal program funds administered through Category Z are allocated as follows:

- Federal-Aid Urban Systems (FAUS) funds are allocated to cities and counties on the basis of urban population;

- Federal-Aid Secondary (FAS) funds are allocated to counties on the basis of FAS system mileage. Twenty percent of the state's FAS apportionment is retained for the state highway system;

- Fifty percent of the state's apportionment of Federal bridge (BR) funds is allocated to local jurisdictions. Both local and state system bridge funds are allocated to specific projects on statewide priority bases;

- Hazard Elimination (HE) funds are allocated on a project-by-project basis. Local jurisdictions are allocated sixty percent of the state's apportionment;

- Railway-Highway Grade Crossing Program (RR) funds are allocated on a project-by-project basis. Local jurisdictions are allocated eighty percent of the state's apportionment.

- Emergency Relief (ER) funds are made available based on the actual cost to restore damaged Federal-Aid facilities.

Up to 1.5 percent of the additional 0.55 cent county and 0.5 cent city/town gas taxes which began in 1990 and 1991 are distributed to WSDOT and CRAB for supervision of Federal grants and roadwork. The WSDOT share of these funds provides support for program Category Z.

Funds available for CAPP and RAP are established by the statutory distributions of revenues from motor vehicle fuel taxes. RAP receives 1/3 of the one-cent tax on motor fuels (RCW 82.36.025) and 0.25 cents from the five-cent fuel tax (RCW 46.68) or a total of about 0.58 cents per gallon. CAPP is funded from 0.45 cents of the five-cent fuel tax.

The Urban Arterial Trust Account program receives 1.21 cents of the 17-cent fuel tax (RCW 46.68.100) plus 1/3 of the one-cent tax (RCW

82.36.025) for a total of about 1.54 cents. The TIA is funded from 1.5 cents of the five-cent fuel tax (RCW 46.68).

Evaluation of Current Process

The current needs models which are used as the basis for establishing funding allocations to Categories A and H do not allow for exploration of the implications of different facility condition levels. The static nature of these models does not support funding allocation decisions which are based on cost-benefit tradeoffs. In addition, the practice of earmarking funds by category and subcategory early in the programming process detracts from the ability to make informed policy tradeoffs later.

Current funding allocation methods for Category Z are tied to Federal funding regulations and will therefore need to be revised to respond to the new Intermodal Surface Transportation Efficiency Act.

Funding allocation methods for CRAB and TIB programs are statutorily-based, and should be periodically reviewed.

Recommendations

Establish initial funding targets for each program category, with the preservation category target based on the output of the needs analysis. Rather than establishing firm allocations of funds to different program categories in advance of project identification and evaluation, it is recommended that target funding levels be established, with the understanding that adjustments and tradeoffs may occur once candidate programs are developed and evaluated.

Recommended procedures for establishing these initial targets are:

- The **maintenance** program target would be established by combining the level of bridge and pavement maintenance required as estimated in the preservation needs analysis, with an assumption that other maintenance activities would be level funded (adjusted for inflation).

- The **preservation** program target funding would be a direct result of the preservation needs analysis involving examination of different scenarios and would be funded at the level required to meet the desired pavement and bridge condition levels. The desired condition level would be selected based on a periodic analysis of alternative standards or scenarios and funds could be shifted from the preservation category to other categories if a lower level is acceptable.

- The **improvement** program target funding would be the funds remaining after the other program targets are set. However, the program evaluation process would allow for increases in expenditures on improvements to be traded-off against lower facility condition levels under the preservation category (see Section 4.8).

- **Administrative** activities should be funded to support an agreed-upon level-of-effort based on historical experience or a specific work program of activities.

- Category Z would continue to be funded as now. However the new Intermodal Surface Transportation Efficiency Act may require changes to the method for establishing the funding target for Category Z.

- TIB and CRAB programs would continue to be funded as established by statute.

Establish district targets for the maintenance and preservation categories based on relative needs. Set aside a small portion of the improvement category target for districts, with each district's share to be determined by formula. These targets are subject to revision in the program evaluation step. It is recommended that district targets for the different categories be established as follows:

- District targets for **maintenance** would be based on the relative percentage of pavement and bridge maintenance needs established in the preservation needs analysis. For other maintenance activities each district would be level funded adjusted for inflation and for approved changes (decision packages) submitted by the districts.

- District targets for **preservation** would be based on relative needs in each district as determined in the needs analysis.

- A small portion of the **improvement** program target funding level would be allocated to districts based on a formula including factors such as population, lane-miles, and geographic cost variations. Any projects in the accident reduction and minor service/capacity subcategories would be funded from these district targets, although districts could also apply these funds to other types of projects if desired. The remaining funds would be retained to address needs on a statewide basis, with all other projects competing with one another for these funds.

4.6 Project Identification

Current Process

For **Category A**, WSDOT first identifies problems to be addressed in a priority array, which lists highway segments which have deficient pavement conditions, and hazardous accident locations. Resurfacing projects and safety improvements are then identified by the districts to address these problems. All hazardous accident locations must be addressed by districts in the Category A program. However, this does not mean that a project is defined for every location, given that some hazardous accident locations may not feasibly be addressed by projects. Operational and minor capacity projects in Category A are also identified by the districts, but are not included in the priority array. These kinds of projects are typically coordinated with pavement and/or safety projects.

For **Category B**, Interstate completion projects are pre-defined. Interstate 4R preservation projects are identified through a procedure analogous to that followed for Category A, and are included in the Priority Array. Other 4R projects are identified by WSDOT headquarters and district staff.

For **Category C**, road segments which currently meet the established minimum level of service criteria are eligible for consideration under Category C. Specific projects are identified by the districts. The Department's Level of Development Plan provides guidelines on the type of improvements which can be made on different classes of roads. Three levels of development are established for state highway segments. The most important segments are designated for improvement (or construction) to design standards which provide for a satisfactory level of traffic service, operational efficiency and safety. Higher functional classification highways which primarily serve local or community travel and experience only moderate traffic volumes are designated for 3R (resurfacing, restoration and rehabilitation) improvements. Highways serving less critical needs are designated to receive the minimum improvement necessary to maintain structural integrity and operational safety. In addition, the Department's Highway System Plan designates the level of access control and the number of lanes for principal highways.

For **Category H**, a statewide screening process is used to identify the top candidate bridge replacement and rehabilitation projects. This takes into account eligibility for Federal funding. Bridge deck restoration candidates are identified based on bridge inspection information. Major bridge repair and painting projects are identified by the WSDOT Bridge Condition Unit and by districts.

For **Category Z**, the WSDOT Local Programs Division assists local agencies to identify needs and develop projects which are eligible for Federal and state funds. FAUS and FAS projects are identified and selected by local governments. Bridge projects are identified by WSDOT based on biennial bridge inspection results. Bridges must have a sufficiency rating low enough to meet Federal funding requirements.

For **RAP**, rural collectors with capacity, structural, geometric or safety-related deficiencies are identified by the counties. For **CAPP**, pavement management systems must be used to track the condition of all paved arterials, and pavement condition thresholds must be used to determine appropriate preservation actions.

For the **UATA** program, jurisdictions submit inventory information on their arterials, and a priority array is prepared which lists for each region and functional class the operating speed, volume to capacity ratio, accident rate, pavement condition rating and road width. Deficiencies are determined by comparing these items to minimum tolerable conditions defined for each region. Projects to address these deficiencies are then proposed by local jurisdictions. For **TIA**, local jurisdictions identify project candidates which meet this program's criteria.

Evaluation of Current Process

The current WSDOT methods for project identification for the state highway system do not explicitly encourage consideration of a broad range of alternatives such as low cost projects, demand management strategies, multimodal projects and intelligent vehicle highway systems (IVHS).

As noted above under the evaluation of needs analysis methods, the criteria used to define needs are not always consistent with the criteria used to identify candidate projects. This means that the needs estimates do not provide a guide to how funds will actually be spent.

The Category C project identification criteria (current level of service) represents a reactive rather than proactive approach. While this is not necessarily inappropriate, there is no explicit policy which supports this approach.

Recommendations

The recommended approach to project identification is to fully integrate this step with needs analysis. Candidate projects for evaluation would be a direct output of the needs analysis. These projects would therefore be consistent with any service or condition level targets which have been set,

and, in the case of improvement projects, with needs established in the broader system planning process.

No changes in current methods for project identification in other programs (Category Z, TIA, RAP, CAPP) are recommended at this time.

4.7 Project Evaluation and Ranking

Current Process

Different project evaluation and priority ranking methods are used in each of WSDOT's state highway program categories:

- For **Category A**, pavement and safety projects are subjected to a technical ranking process. Other types of projects are not formally ranked. Typically, these other project types account for a relatively small proportion of total expenditures. For **pavement projects**, the establishment of priority rankings begins by using the pavement management system to determine when each segment should be resurfaced. This determination is based on the current pavement condition rating, the PMS predictions of deterioration, and established resurfacing standards. Each segment is assigned a PMS rank which indicates the urgency of resurfacing. The PMS rankings are used to produce a priority rank for the Priority Array for each district and functional class of road. The Priority Array is then used by the districts to guide selection of pavement projects. For **safety projects**, priority rankings of hazardous accident locations are determined based on the number and severity of accidents, and the extent to which the accident rate exceeds an established statewide critical value.

- For **Category B**, Interstate completion priorities are established based on executive decisions which take into account system continuity, ease of implementation, the potential benefits to the operation and safety of existing highways, and public support. Interstate 4R preservation projects are prioritized in the same way as Category A projects. Interstate 4R capacity projects are ranked on a statewide basis using a scoring system which considers congestion levels, traffic volume, traffic volume growth, district priority, volume/capacity ratio, accident rate, and inclusion of a transit improvement. Districts initially select projects from the highest ranked projects on the statewide list, and final selections are made by WSDOT headquarters consistent with the regional funding allocations. WSDOT considers a number of factors in making the final selections, including system continuity, people-moving capacity, effect on mainline congestion, and regional coordination.

- **Category C** projects are prioritized statewide on the basis of a cost-benefit rating system. Project benefits are represented by an Engineering Factor, which is calculated based on the estimated accident reduction, traffic congestion level improvement, and traffic volume. The Engineering Factor is then divided by the square root of the annualized project cost to obtain the Relative Rating, which is the basis for priority rankings.

- Within **Category H**, bridge replacement/restoration projects are ranked statewide based on a rating factor which considers both structural and functional adequacy, and an assessment of the importance of the facility to the system and the urgency of the improvement need. Bridge deck restoration projects are prioritized into three groups according to condition and traffic levels. Other major bridge repair priorities are established in meetings between the districts and headquarters based on urgency, condition and schedule considerations. Bridge painting priorities are also based on engineering judgments related to the need for and urgency of painting.

For **Category Z**, projects are funded under a wide variety of programs with different eligibility and priority criteria. Projects funded by FAUS and FAS are prioritized by recipient local agencies, with no involvement from the state. Bridge projects are evaluated and prioritized statewide based (in part) on bridge inspection results evaluated by a Bridge Replacement Advisory Committee which is composed of representatives from the counties, cities and WSDOT. Hazard elimination project proposals are solicited from local agencies and are prioritized statewide based on a cost-benefit ratio. Rail-Highway Crossing projects are proposed by local agencies and are selected in cooperation with the Washington Utility and Transportation Commission Staff.

For **RAP** projects, separate priority rating systems are defined for each of the five regions (Puget Sound, Northeast, Northwest, Southeast, and Southwest). Four of the five systems assign points based on traffic volumes, accidents, structural condition, geometrics, and other factors which vary. The other system makes an initial apportionment of funds between bridge projects, reconstruction projects, and 3R projects. Then, a priority formula is applied which is based on a service rating and a condition rating. Each county submits eligible projects to CRAB, and funds are allocated to the highest ranking projects within each region.

For the **CAPP** program, no set ranking system is defined, but CRAB requires that counties use a pavement management system to prioritize and select pavement projects.

For the **UATA** program, candidate projects are divided into three priority groups based on the number of deficiencies and the traffic level. Within

each functional class and group, a priority rank is assigned based on the number of deficiencies and the weights assigned to each type of deficiency. The priority criteria are heavily weighted to the selection of projects with either a deficient operating speed or unacceptable congestion level (volume to capacity ratio).

TIA projects are scored and ranked according to the extent of multi-agency participation, multimodal solutions, congestion and safety improvements, economic development and magnitude of local match.

Evaluation of Current Process

Current WSDOT priority methods provide a reasonable mechanism for making tradeoffs among candidate projects within each program category. However, some areas of inconsistency have been identified:

- Different approaches to prioritization of capacity improvements are used for non-Interstate and Interstate systems.
- Project cost is considered for prioritization of Category C projects, but not for the other categories.
- The complexity of the priority methods used for the different categories is such that it is difficult to compare the relative merit of projects across categories. A more consistent use of cost and benefit measures would facilitate such comparisons.

In addition, the following biases were noted:

- Prioritization methods give more emphasis to vehicular traffic flow than movement of people or goods.
- Technical ranking processes generally do not directly address certain objectives such as protection of the environment or economic development. Consequently, the process is biased towards projects which address traditional engineering criteria (congestion, pavement condition, safety) as opposed to broader objectives. This tendency is partially compensated for by the ability to exercise discretion in final project selections.
- Creative, low cost approaches to solving transportation problems are not explicitly supported due to the lack of a cost-benefit approach to prioritizing projects.

Evaluation methods used for Federal-Aid projects funded through Category Z are appropriate, but may need revision based on changes at the Federal level.

Methods used in CRAB and TIB programs are reasonable and adequately address the objectives of these programs.

Recommendations

Revise evaluation and ranking methods for preservation projects to consider minimization of life cycle costs. Incorporate cost-benefit criteria into the evaluation of improvement projects where possible. Project evaluation and ranking methods should reflect the broad set of policy issues included in the State Transportation Policy Plan. These methods should provide a better guide to the tradeoffs associated with alternative uses of funds by emphasizing the expected benefits or impacts of particular projects on transportation service.

Selection of preservation projects should be based on the goal of minimizing the costs of maintenance, repair and rehabilitation over the life of the facilities while maintaining an "acceptable" condition level for road users. This type of analysis is proposed as part of the needs analysis/ project identification stage.

For the improvement category, candidate projects should (where possible) be ranked based on expected impacts, results, cost-benefit or cost-effectiveness rather than on factors describing the severity of the problem addressed. Ranking criteria should focus on the movement of people and goods, rather than vehicles.

For Category Z, no change is recommended to the current procedures used for evaluation and ranking, though adjustments may be required due to the new Intermodal Surface Transportation Efficiency Act.

No changes are recommended at this time to the TIB and CRAB project evaluation and ranking methods. However, depending on changes adopted at the state level, these procedures should be reviewed in the future.

4.8 Program Evaluation

Current Process

There is currently no formal procedure for analyzing program tradeoffs and evaluating the expected benefits of a capital program in terms of stated policy objectives.

Evaluation of Current Process

Explicit analysis of tradeoffs and program evaluation are critical for establishing clear linkages between policy goals and program decisions. The lack of an explicit program evaluation process has made it difficult to understand and communicate what the proposed program is expected to achieve in terms of stated policy objectives. It has also made it difficult to consider the potential benefits and costs of shifting program resources from one category (or subcategory) to another.

Recommendations

Conduct an evaluation of key program options and tradeoffs, and use this as the basis for establishing a final allocation of funds to program categories. Once an initial version of the program is developed, a program evaluation should be prepared with the purpose of providing guidance for final funding allocation decisions. The program evaluation should document its benefits and impacts in terms of the stated policy goals and objectives for the program. The evaluation should also document the impacts of shifting funds between program categories or subcategories where specific alternatives have been considered, as a way of illustrating key tradeoffs and choices. This process may result in shifts of funds across categories or subcategories, based on the tradeoff analysis.

4.9 Program and Performance Monitoring

Current Process

WSDOT tracks the progress of the capital program in terms of expenditures by category and subcategory compared with budgeted amounts. The status of programmed construction projects is also tracked.

Evaluation of Current Process

Current program monitoring efforts are directed at supporting internal WSDOT program management needs. These efforts could be expanded to provide more detailed information. Another important aspect to program monitoring relates to what is being achieved by implemented projects in the program. This type of monitoring is presently limited, and is not directly used to provide feedback into the ongoing programming process.

Recommendations

An expanded program and performance monitoring function should be established within WSDOT. A program monitoring report should be produced at the end of each biennium which documents program accomplishments compared to the original proposed program (as amended), and discusses deviations and exceptions. A new system performance monitoring function should be developed to track system conditions and performance over time and provide a guide to how well policy goals and program objectives are being met.

It should be emphasized that the program and performance monitoring reports are to be produced at the end of each biennium and focus on the **actual** accomplishments and performance of the just completed biennial program. The program evaluation step discussed in Section 4.8 focuses on the **expected** accomplishments of the next proposed biennial program.

Figure 4.5 illustrates the timing of program development, evaluation and monitoring activities. In any given biennium, the current biennium program will be implemented and monitored while the program for the next biennium is being developed. Program monitoring involves tracking of accomplishments versus plans, whereas performance monitoring looks at "snapshots" of system conditions and performance over time, as the program is implemented. (These snapshots will actually reflect the cumulative impacts of previous programs as well as exogenous factors.) As shown in the figure, the program and performance monitoring reports produced for the Biennium 1 program are used to provide input to the development of programs in the next two biennia. Information on the actual benefits and costs of a completed program can greatly assist later program evaluation tradeoffs.

4.10 Interjurisdictional Coordination Recommendations

In order to address the issues identified in Chapter 3.0 regarding interjurisdictional coordination, additional recommendations for the state programming process are as follows:

1. **Make the state's six-year highway program project-specific for all major types of improvements, with explicit recognition that projects in years 3-6 are subject to change.**

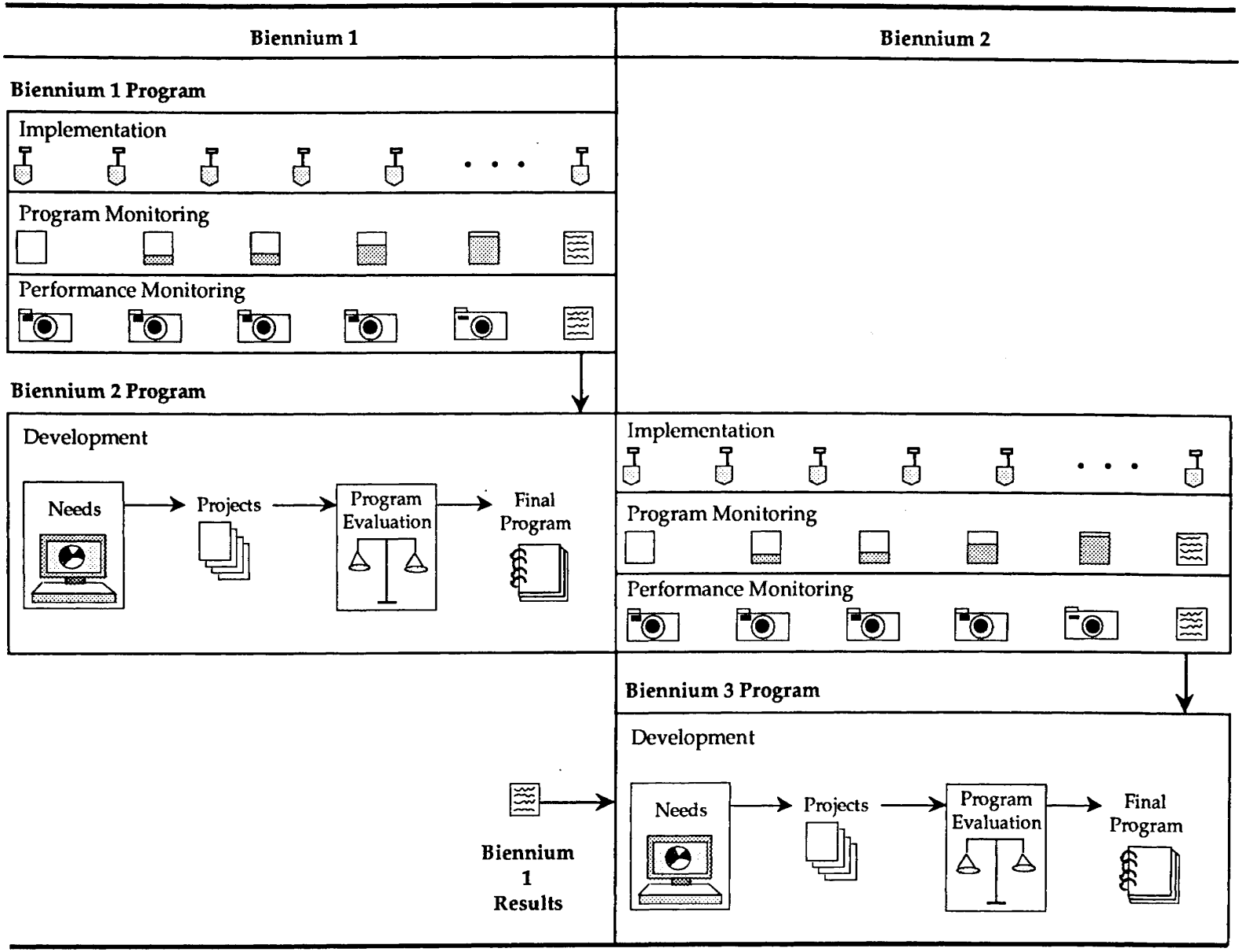
   Currently the program identifies specific projects for the first two years and represents a financial plan for the next four years. Identification of specific projects for all years of the program will improve the Department's ability to coordinate project decisions with local jurisdictions by providing as much lead time as possible, and will improve communication and accountability on program contents and expected accomplishments. Given that typical construction project lead times are over two years, a longer time horizon is necessary to allow for program tradeoffs to be effectively made and for advance coordination to be feasible. The ability to demonstrate compliance with Clean Air Act and Growth Management Act requirements will also be enhanced.

   It should be recognized that some types of projects cannot be scheduled more than one or two years in advance and that projects scheduled in years 3-6 may be changed as the next biennial budget and six-year program are developed. Thus, this recommendation should not have the effect of reducing programming flexibility or responsiveness to changing conditions.

2. **Improve coordination of state/local programming cycles and project schedules.**

   For state funded capacity and operational improvement projects, a mechanism should be developed to allow adjustments in the state program during a biennium to reflect changes in local priorities, local funding availability or local project status. Changes in these factors may affect any local project, including those funded through the Transportation Improvement Board or County Road Administration Board programs. The objective of this recommendation is to avoid delays in implementation of high priority TIB and CRAB projects once local budgeting processes have determined matching fund availability.

Figure 4.5 Relationship of Program Evaluation and Program/Performance Monitoring



3. **Allow increased flexibility to maximize effectiveness of state resources by:**

   - Developing an explicit mechanism to recognize improvements on the state highway system that represent the most cost-effective solution to local problems while still reflecting overall state priorities; and

   - Allowing state funds to be spent on local roads when that represents the most cost-effective solution for a priority problem on the state highway system.

4. **Strengthen opportunities for local jurisdictions to provide input to the state program development process in the policy setting (Policy Plan), system planning, project identification and scoping, and priority setting stages.**

   Specific steps might include:

   - Annual meetings between the districts and local jurisdictions to discuss joint project opportunities.

   - Redevelopment of clear guidelines on procedures by which local jurisdictions may propose joint projects to WSDOT for consideration.

   - Ensuring consistency between WSDOT route development plans and regional transportation plans.

Glossary of Acronyms

Glossary of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ACP	Asphalt Concrete Pavement
ACSF	Arterial City Street Fund
ADT	Average Daily Traffic
AVI	Automated Vehicle Identification
AWC	Association of Washington Cities
BARS	The State Budgeting, Accounting and Reporting System
BMS	Bridge Management System
BR	Federal Bridge Replacement & Rehabilitation Funds
BST	Bituminous Surface Treatment
CAPP	County Arterial Preservation Program
Category A	WSDOT Preservation and Safety Program
Category B	WSDOT Interstate Program
Category C	WSDOT Non-Interstate Capacity Program
Category H	WSDOT Bridge Replacement and Rehabilitation Program
Category M	WSDOT Maintenance Program
Category Z	WSDOT Local Programs
CDBG	Community Development Block Grant

CERB	Community Economic Revitalization Board
CO	Carbon Monoxide
CIP	Capital Improvement Program
CRAB	County Road Administration Board
DOT	Department of Transportation
EPA	US Environmental Protection Agency
ETP	Eastside Transportation Program
FA	Federal-Aid
FAI	Federal-Aid Interstate
FAME	Freeway Arterial Management Effort
FAP	Federal-Aid Primary
FAS	Federal-Aid Secondary
FAUS	Federal-Aid Urban System
FBR	Federal Bridge Discretionary/Replacement & Rehabilitation Funds
FHWA	US Federal Highway Administration
4R	Resurfacing, restoration, rehabilitation and reconstruction
GMA	Growth Management Act
HCT	High Capacity Transportation
HE	Federal Hazard Elimination Funds
HOV	High Occupancy Vehicle
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
IVHS	Intelligent Vehicle Highway Systems
LID	Local Improvement District
LTC	Legislative Transportation Committee
LOS	Level of Service (measure of traffic flow conditions)
MMS	Maintenance Management System
MPS	Mitigation Payments System (King County)
MTC	Minimum Tolerable Condition
MVET	Motor Vehicle Excise Tax
OFM	State Office of Financial Management
MPO	Metropolitan Planning Organization

PAPS	Programming and Prioritization Study
PCC	Portland Cement Concrete
PCR	Pavement Condition Rating
PMS	Pavement Management System
PWTF	Public Works Trust Fund
RAP	Rural Arterial Program
RATA	Rural Arterial Trust Account
RCW	Revised Code of Washington
RID	Road Improvement District
RJC	Road Jurisdiction Committee
RR	Federal Rail Highway Crossings Funds
RTPO	Regional Transportation Planning Organization
SIP	State Implementation Plan (for meeting Federal air quality standards)
SOV	Single Occupant Vehicle
STPP	State Transportation Policy Plan
SWIB	State of Washington Inventory of Bridges
TAG	Transportation Analysis Group of the Legislative Transportation Committee
TBD	Transportation Benefit District
TDM	Transportation Demand Management
3R	Resurfacing, Restoration and Rehabilitation
TIA	Transportation Improvement Account
TIB	Transportation Improvement Board
TIP	Transportation Improvement Program
TSM	Transportation System Management
UAB	Urban Arterial Board
UATA	Urban Arterial Trust Account
UATF	Urban Arterial Trust Fund
V/C	Volume to capacity ratio
VMT	Vehicle Miles of Travel
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation